

Vanderbilt *Compliments of A. Vanerveer*

Stricture of the Male Urethra, with Report
of Twenty-Seven Cases.

ANNUAL ADDRESS

DELIVERED BEFORE THE

Medical Society of the County of Albany,

NOVEMBER 11th, 1873.

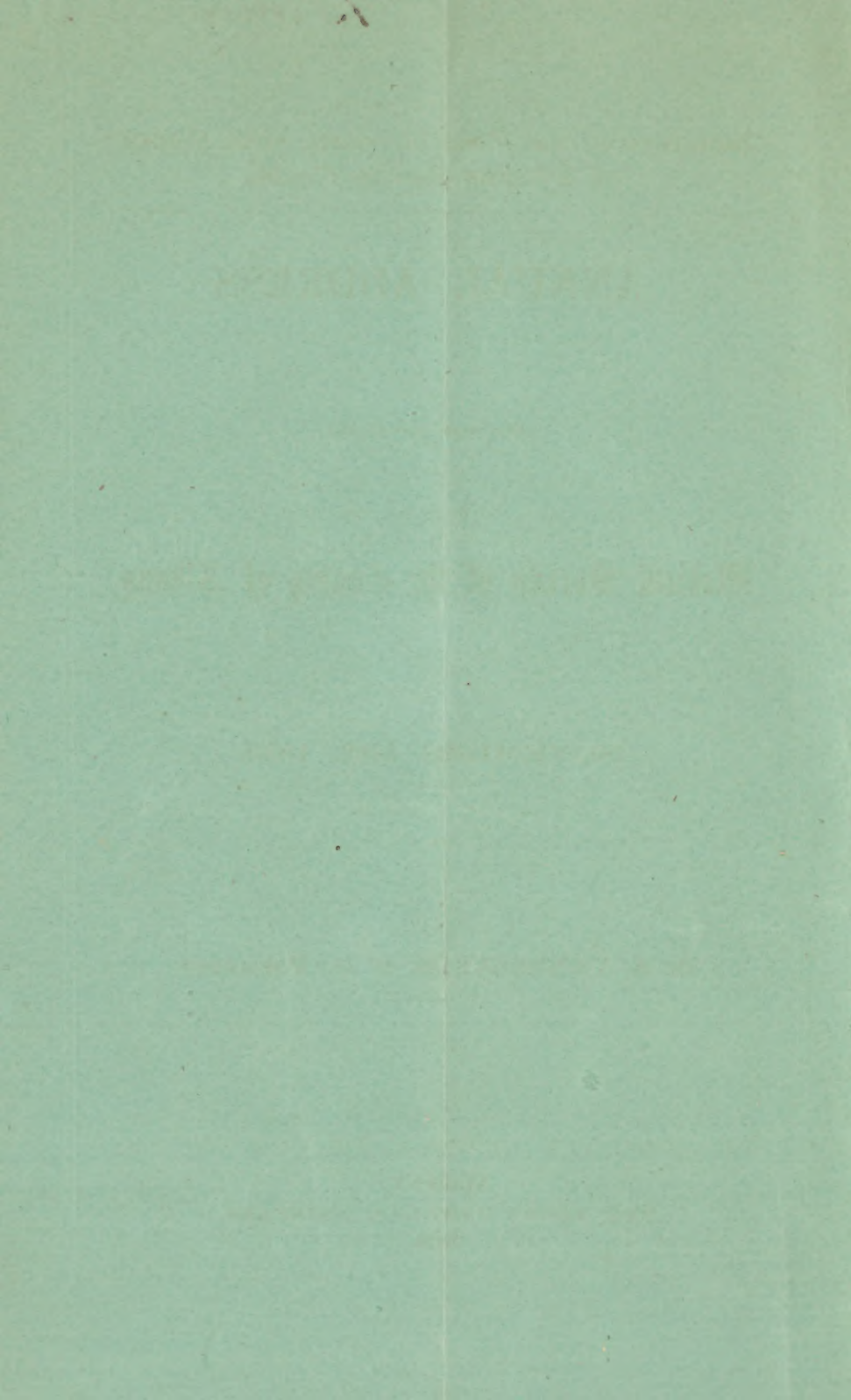
Box 12

BY A. VANDERVEER, M. D., PRESIDENT.

ALBANY:

THE ARGUS COMPANY, PRINTERS.

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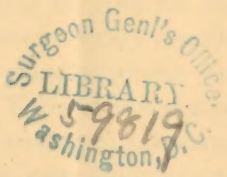
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ADDRESS.

GENTLEMEN OF THE SOCIETY :

Our gathering to-day reminds us that, as a Society, we have come to another milestone. I am reminded that to-day I give back the trust committed to me one year ago. It is but proper that I should, somewhat briefly, call your attention to our present condition.

Numerically, we are strong. New members have come to us during the year, and at present there are but two county medical societies in the State that excel us in numbers.

As you observe from the report of the Treasurer, financially our condition is good.

Our record for the past year is one to which we can look back with feelings of gratification.

We have had more than our usual number of meetings, and I think you will all agree with me that the most of them were both pleasant and profitable. The proceedings and the material presented at these meetings have been printed in the Buffalo Medical and Surgical Journal, and in the Philadelphia Medical Times. In December, a proposition was made to give an entertainment to the State Society. This was readily acceded to. The funds to provide for such entertainment were promptly and liberally subscribed. The result was a pleasant gathering, from which mutual benefit and pleasure were derived.

But, mingling with our congratulations of the past year, there is a note of sadness, as we think of those we have lost by death.

We miss to-day Dr. John P. Whitbeck, Dr. Uriah G. Bigelow and Dr. John H. Becker; men whose record is bright in their respective fields of practice, and whose noble work is cherished, not only by us, but by many loved patients who hold them in grateful remembrance.

Appropriate tributes of respect to their memory have already been paid by us as a Society. As individuals, let us emulate their virtues, profiting by the good they have accomplished.

I would call your attention to one great want of the Society, and that is the necessity of securing a proper room in which its meetings can be held. It is not needful that I should dwell at length upon this. You must all have felt the inconvenience to which we are subject from the present arrangement. The benefit accruing from a room containing a selection of late books and medical journals, to which the members could at any time have access, must be obvious to all. I would urge that efforts be made to secure this at as early a day as is possible.

In calling your attention to the subject which I have selected for my annual address—that of “Stricture of the Male Urethra”—I lay claim to no particular originality. I desire simply to present the results of the treatment adopted in the cases that have come under my care during the past few years.

I present you no learned review on this subject. It is enough to know that rapid advances are being made in the different specialties that go to make up our profession; that errors are being rooted out, and the vacant spaces filled by facts that statistics help us so surely and promptly to establish.

We can say with all truthfulness that great credit is due to that noble class of men, who, taking up a single line of thought and observation, have helped to place us, as a profession, beyond the pen of sarcasm or the sting of reproach. The principles and theories of medicine

and surgery must be firm, that can stand the close observation and careful investigation of the medical thinkers and writers of the present time.

In this especial branch of surgery we find that active minds have been busily at work during the ten years past. And, for the advance that has been made, we find great credit is due to our own countrymen. To Professors Gouley, Otis, Van Buren and others we should give all praise. By their patient labors, close investigations, long and accurate research, we are put in possession of such facts and knowledge, that, aided by delicately constructed instruments, we no longer approach a case of stricture with anxiety and fear, but with confidence proceed to the relief of the most serious cases that are brought to the care and attention of the surgeon. More especially to Dr. Gouley, the inventor of the tunnelled urethral instruments, would we express our gratitude. It has long been recognized that strictures of the urethra are the most difficult cases the surgeon is called upon to treat. He may be a good surgeon in every branch of his calling, and yet in these cases fail in treatment from want of that delicate manipulation and careful judgment so eminently necessary to insure success.

Perhaps there are but few subjects in surgery that have been so often and so thoroughly written upon. At the present day, the close reader of foreign and American medical journals cannot fail to notice the many and varied modes of treatment advocated by particular and special writers upon this subject. If, by presenting some of the most recent and improved instruments and methods in use in forming a diagnosis of this disease, and then by the citation of cases as treated, I can refresh your minds or add to your knowledge but a "jot or tittle," I shall be content.

Permit me, in as brief a manner as possible, to call your attention to some of the more prominent *symptoms* that are exhibited in stricture of the urethra, as will be observed in the history of the cases following.

In the great majority of cases, at some previous period you will notice that the patient has had one or more attacks of gonorrhœa, or he may give a statement of some injury done the urethra,—a fall, a kick, any traumatic cause.

He says he is compelled to micturate frequently ; that the act is accompanied by an unpleasant, smarting pain. He notices the external opening of the urethra is kept constantly moist, and that there occasionally escapes a few drops of matter, or, as he terms it, “the old discharge returns.”

In the morning, he observes the lips of the urethra are usually glued together, and when the glans penis is squeezed, a drop or two of matter or a pearly looking fluid is seen to escape.

This pus-like discharge from the urethra he observes increases whenever he indulges too freely in physical excitement, or in the use of malt or alcoholic stimulants.

At times, when he has taken good care of himself for a long period, the discharge will cease, only to return again after a slight cold or exposure of any kind.

A patient will frequently come, requesting you to treat him for a troublesome gleet, saying he has no stricture, but that he had gonorrhœa at such a time, and has never been properly or thoroughly cured. In our diagnosis of such a case, we are always to remember and bear in mind that, in all cases of stricture, we are pretty sure to find a troublesome, persistent, gleet discharge from the meatus, and which has been noticed with anxiety by the patient himself.

As the difficulty increases, the patient is compelled to get up several times each night to pass his urine.

With anxiety he notices his stream of water is growing less, though he exercises all his force to increase the flow ; also, he observes that it takes him a long time to empty his bladder.

His urine does not pass from the urethra in a natural appearing stream, as he is accustomed to notice it; will begin to urinate first by passing two or more streams; then again it is twisted or flattened.

Will frequently, after urinating and when returning his penis, notice the escape of a small quantity of urine in drops, though he felt sure but a moment before of having passed all that was in his bladder.

After a while this latter symptom—urine retained in the urethra behind the stricture—becomes very troublesome, soiling his under garments and making him feel very unpleasant.

As the disease advances, the trouble in micturating is more and more marked; the act is greatly prolonged, and the burning, scalding pain much increased. He is compelled to make the attempt to empty his bladder much oftener than usual; the stream becomes more thread-like, or perhaps may be only a succession of drops, and finally it may only dribble away.

The patient may come to your office, or send to consult you, after a free indulgence in dissipation, or after having suffered from long exposure, and you will not infrequently find a condition of complete retention. This, in a few cases, may be the first warning the patient has of his having a stricture.

The patient may have neglected the proper treatment of his case so long, or in consequence of some original traumatic injury it may have been impossible to treat his case properly, that now he exhibits abscesses in the perineum, along the thighs, above the pubes, with fistulous tracks leading from the urethra to them, as some of our cases will show.

A word as to the *different kinds* of strictures found in the cases I present to you to-day.

They are either of the idiopathic or traumatic kind, the former being more frequently the result of urethritis, the latter arising more especially from some external injury

done the urethra. Again, they are, as to their size, either large or small in calibre.

We meet with strictures of large calibre, more especially in cases of persistent, chronic gleet, and where the patient, when questioned as to stricture, insists upon it that he has none, for he is sure he is passing as large a stream as he ever did. For a thorough description of this form of stricture, we are, as a profession, very much indebted to Professor Otis, of New York.

As to the *diagnosis* of these various forms of stricture, we find that great progress has been made within a few years in the invention of certain important instruments required; and of the more modern instruments in use, none is of greater service than the so-called bulbous or acorn-pointed bougie, the bougie-à-boule.

As we are about to commence the direct exploration of the urethra, if possible, it is desirable to notice the stream of urine the patient is able to pass. The size of the stream, if one is passed at all, the force apparently required, and the length of time necessary to empty the bladder, should claim our particular attention.

The under surface of the urethra, when holding the penis for the introduction of the bulbous bougie, should be carefully examined as to the degree of firmness of the points of induration or approaching abscess that may be present, and indicating whether the stricture is of long or short duration.

Also, as you will notice in the history of some of our cases, the urine should be carefully examined, and especially before any operation is performed.

After these few preliminary examinations, we come to the direct use of the bulbous bougie, an instrument so useful and certain in its work, that, without it, we would be unable to tell the location, size or number of strictures that may be found even in a single urethra.

After a careful and accurate diagnosis has been reached, we have next the *treatment* to seriously consider.

The cases which I report will exhibit the following surgical methods of treatment, and which are now in general use :

First. Dilatation—a method that has been a long time in use ; and here I would state that I believe it to be the experience of nearly every surgeon that it is the safest, and that by this method most strictures can and should be treated.

Even after the many operations spoken of by authors in the treatment of strictures, dilatation must be continued to insure permanent relief.

Second. Divulsion—a term first employed by Voillemier in connection with the treatment of stricture.

This may be accomplished by any of the various divulsors or dilators which are now in use ; but the one to which I desire to call your attention more especially is Gouley's modification of Sir Henry Thompson's, making it the tunnelled divulsor.

Third. Internal urethrotomy—the latter method accomplished by any of the various urethrotomes now in use, or, when the stricture is near the meatus, by means of Gouley's meatotome, an instrument simple in its construction and easy of application.

In presenting the following cases, as treated by the methods just spoken of, I desire to call your attention to some of the various complications occurring in the treatment of stricture, such as urethral fever, hemorrhage, etc.

First. As to the treatment by gradual dilatation. Of the instruments employed in this method, I have found the following to be the safest and most useful :

Beginning with the soft, olive-pointed bougies, until No. 8 English size has been introduced, then the metallic sound, which is more speedy in its results and equally as safe.

CASE I.

GRADUAL DILATATION ; RECOVERY.

May, 1867.—C. W., unmarried, of intemperate habits for several years, applies for treatment. Six years ago contracted gonorrhœa; has had the disease, either in its acute or chronic state, ever since; has practised the usual treatment with copaiba, cubebs, and various injections; noticed his stream of urine becoming small during the past three years, and now can only void it with much effort and straining; has a frequent desire to pass his urine during the night; no complete retention at any time, but fears it; desiring to be relieved, and leading a more temperate life, he is anxious for treatment; appears pale and thin, and states that he can attend to his duties only with the greatest effort. Upon examination a No. 3 black elastic olive-pointed bougie passes into the bladder. There is considerable gleet discharge, and the urethra is decidedly sensitive. Meatus appears quite small; tr. ferri chloridi and fluid extract ergot ordered internally. Continued this treatment for nearly eight months, besides passing bougies two or three times weekly, gradually increasing in size, until No. 15 could be introduced with ease. The discharge ceased entirely, and the patient was directed to use the bougie occasionally, and to continue in his good habits. His general health is now excellent, and in appearance he is decidedly improved.

CASE II.

SINGLE STRICTURE; GRADUAL DILATATION; RECOVERY.

May 14, 1870.—E. T. J., æt. 43, of irregular and intemperate habits, applies for treatment to relieve a troublesome and long-standing stricture. First attack of gonorrhœa in 1848; several attacks since; has pursued the usual treatment with copaiba, etc., internally, and has frequently used injections. Eight years ago noticed that the stream of urine was growing smaller, and for the past five years has emptied his bladder with great difficulty; gleet discharge during the most of this time. Two years ago, while in San Francisco, was treated by means of bougies, and experienced some relief, the discharge ceasing for nearly a year; but, neglecting treatment, soon relapsed into his former condition. During the past year is obliged to void his urine every hour or two, both night and day, and for the past three months could only relieve himself when sitting upon the water-closet, when he would also, each time, have a small fecal evacuation from the bowels. Is unable to attend to business; is pale, and feels weak and very despondent; habits are now better, and is very anxious for a restoration of his health. Urine is alkaline; specific gravity 1020, no albumen; has never had complete retention, always being able to empty his bladder by means of hip-baths, etc. Upon examining the urethra to-day with No. 2 bulbous bougie a stricture is detected about five inches back of meatus, through which, by gentle exertion, and without causing much pain, a No. 2 black elastic olive-pointed bougie passes into the bladder. Ordered tr. ferri, tr. cantharid., and fld. extract ergot internally.

May 15.—Voids his urine with more ease, and, seeing already some improvement, is hopeful.

September 10.—Gradual dilatation has been practised two and three times a week; the past four weeks not so often, until now No. 14 steel sound, English scale, can be passed with little pain into the bladder. Not obliged to void his urine during the night, and only three or four times during the day; the stream is full, and under observation is voided with marked force. The discharge, which was quite profuse when dilatation was first commenced, has ceased entirely, and the patient has gained in flesh, health and courage; internal treatment continued.

December 1.—A No. 15 steel sound has been introduced about once a week, until now No. 16 can be passed with comparative ease; general health good; internal treatment discontinued.

June 1, 1873.—Mr. J. has returned every two or three months, to have No. 15 or 16 steel sound passed; health is fully restored, and urinary tract apparently as well as ever; is himself taught and directed to pass a No. 15 steel sound once a month for a year at least, and after that not so often. There has been no chill, or any unpleasant symptoms in this case, although the patient is of a very nervous temperament.

September 23.—Patient has passed No. 15 steel sound once a month, and twice at my office I have passed No. 16; no unpleasant symptoms; doing nicely; habits continue good. To-day, with bulbous bougie, cannot detect any contraction of urethral canal.

CASE III.

SINGLE STRICTURE; GRADUAL DILATATION; RECOVERY.

August 29, 1870.—W. C.; æt. 27; habits temperate; first attack of gonorrhœa eighteen months ago. The attack was an aggravated one, and attended with much swelling of the penis; severe pain for many weeks in urinating, and a troublesome chordee. Had gone through the usual routine of internal treatment and injection; had taken good care of himself while under treatment. Now feels debilitated and despondent, and appears thin in flesh; frequent desire to micturate during the day and night; there is a gleet discharge present, and the stream voided is small. Upon examination with various bulbous-pointed bougies, a decided stricture is detected with a No. 2 in the membranous portion of the urethra; a No. 2 black elastic bougie passes into the bladder, but causes considerable pain. Ordered 10 ℥ tr. ferri with 8 ℥ tr. cantharid., diluted with water, four times daily, and gradual dilatation by means of elastic bougies.

Continued under treatment for six months; passed bougies two and three times a week, besides using for the last three months, after the urethra had become well dilated, a weak injection of either *zinci sulph.*, *cupri sulph.*, or tannin, with deep urethral syringe.

The general health is much improved, and the discharge has now ceased entirely; not obliged to urinate during the night, and retains his urine for a

longer time during the day. No. 17 steel sound is passed with ease to the patient; instructed to pass No. 14 metallic sound at least once every two weeks and to report.

August 1, 1872.—Has retained good health, and the urinary organs are in good condition; has continued to pass the sound once and twice a month for a year; comes occasionally to have No. 17 sound passed; has not passed the sound so frequently for the past twelve months; there is no contraction; reports himself well.

August 2, 1873.—W. C. came to-day to have his urethra examined. Passes a good stream, and reports himself as feeling well; no discharge; has not used the sound during the past year. Passed No. 17 steel sound with ease; ordered to pass No. 15 steel sound once a month, and to report occasionally. With No. 12 bulbous-pointed bougie cannot detect any contraction of the urethra.

CASE IV.

TRAUMATIC STRICTURE; GRADUAL DILATATION; RECOVERY.

May 5, 1871.—Rev. W. E.; kicked by a horse twelve years ago; the force of the blow received on the perineum. Passed some blood with his urine shortly after the injury; no complete retention at any time, nor was a catheter introduced at the time. The swelling and ecchymosis never very severe, no abscess formed, the patient gradually recovered from the effects of the injury, and in five months after passed his urine in a full-sized, natural stream, without pain or effort. During the subsequent five years he enjoyed good health, until after exposure to cold he had some difficulty in passing his urine; had well-marked symptoms of cystitis, obliged to empty his bladder occasionally during the night, and was annoyed during the day by dysuria. The stream of urine gradually grew smaller, and it required a greater effort to empty the bladder. He has grown worse until now, when he is compelled to empty his bladder every hour or two during the day and night. The stream has grown very small, and frequently the urine is voided only in drops; has lost strength, is emaciated and much depressed in spirits, being obliged at times to give up his occupation in consequence of this trouble. Has been dosed "ad nauseam" with buchu and many other diuretics. Upon examination to-day the urethra is found to be very sensitive, and No. 3 bulbous-pointed bougie is arrested in the bulbous part of the spongy portion of the urethra. No. 2 passes into the bladder, but is held firmly in attempting to withdraw it at the point of stricture. Large-sized bulbous bougies pass easily through the portion of the urethra anterior to the stricture. Ordered internally tr. hyoscyamus, tr. cantharid., bicarb. potassa, and elix. cinchona, with good generous diet.

Gradual dilatation was practised for two months, when No. 13 steel sound could be passed with ease into the bladder. Patient was now relieved from passing the urine during the night, and could retain it for three or more hours during the day. Internal treatment discontinued, and patient taught and directed to pass No. 13 to No. 15 steel sound at least once a month.

CASE V.

TWO STRICTURES ; GRADUAL DILATATION ; RECOVERY.

July 1, 1871.—F. J., æt. 23, habits fair; small in stature. First attack of gonorrhœa two years ago. Had the usual treatment internally, and used injections for six months; when about well had an impure connection, and contracted the disease for a second time. This attack proved more severe than the first; was attended with much swelling of the penis and great dysuria, also had chordee; treatment about the same as during first attack. Has a continual gleet discharge. Noticed about this time that the stream of urine was becoming smaller, with an increasing desire to micturate; frequently obliged to arise during the night to void his urine; has been in this state for six months previous to applying for treatment. Upon examining his urethra No. 5 bulbous bougie detects two well-marked strictures, one near the meatus, and the other in the membranous portion of the urethra. Tr. ferri and fld. ext. ergot prescribed internally. A No. 3 black elastic bougie passes into the bladder, but causes a smarting sensation at the points of stricture. Gradual dilatation was now practised two or three times a week. Continued under treatment six months. The stream now passed was full, the discharge had ceased, and he had no abnormal desire to micturate; No. 14 steel sound passed.

June 1, 1873.—Has reported occasionally to have No. 14 steel sound passed; his general condition continues good.

CASE VI.

SINGLE STRICTURE; GRADUAL DILATATION ; RECOVERY.

H. L., æt. 22, June 8, 1872, applied for relief of troublesome discharge from his penis. The discharge is accompanied by a frequent desire to micturate and a smarting sensation. Upon observation the stream of urine voided appears small, and requires considerable force. Is finely developed physically, and has not been subjected to exposure; habits temperate. Had his first attack of gonorrhœa in August, 1869; rather severe, from description of symptoms. The plan of treatment was with copaiba, etc., internally, until the middle of October, when, not improving as rapidly as he desired, he used, and but once, upon the advice of a friend, a strong injection of nitrate of silver. Four hours after, on attempting to micturate, found that his flow of urine had ceased, and for nearly twenty-four hours was unable to empty his bladder. This caused him great physical distress and uneasiness of mind. He was relieved at this time with some difficulty, and suffering great pain, by the introduction of a No. 8 gum-elastic catheter. After this he passed his urine naturally but in a small stream. From this time until February, 1870, he passed either No. 8 or 12 elastic bougie every other night. The discharge which was at first troubling him ceased, and passing, as he thought, a good stream, he stopped all treatment, having relied upon his own judgment as to treatment since using the injection of nitrate of silver in October, 1869.

From February, 1870, until the middle of last April he has been quite comfortable, at which time he noticed a return of the old gleet discharge, a gradual decrease in the size of the stream of urine voided, and increasing desire to micturate both night and day. Has had no exposure to a second attack of gonorrhœa. Upon examination to-day there was quite an abundant gleet discharge. Nos. 8 and 5 bulbous-pointed bougies upon being introduced are successively arrested about six inches from the meatus. A No. 3 French olive-pointed black elastic bougie passes with slight effort into the bladder. Divulsion was proposed, but being decidedly opposed to the use of instruments, gradual dilatation was preferred. Ordered 10 m tr. ferri after each meal; gr. j quinine every four hours.

August 1.—Have used bougies, gradually increasing in size, from two to three times a week, until now a No. 16 steel sound is introduced with comparative ease. Quinine was discontinued after two weeks and the iron a week ago; no chills. The discharge has now entirely ceased, and the general health is much improved. Is instructed to use the steel sound, and to pass No. 16 once a week. There is no vesical irritation; patient passes his urine as naturally as he ever has, and is not obliged to empty his bladder during the night.

March 1, 1873.—Has returned to the office about every two months, and had No. 16 steel sound passed. Is free from any gleet discharge, and is feeling well.

June 3.—No. 16 steel sound passes with ease into the bladder. Cautioned as to the necessity of passing the sound occasionally. Large size bulbous bougie fails to detect any contraction of the urethra.

July 29.—Treatment continued, condition remains good since last date, and gradual dilatation practised two and three times weekly. Discharge has ceased. Patient discharged, and directed to introduce No. 15 steel sound at least once a month.

The following cases of obstinate gleet exhibit strictures of large calibre, also ulceration of the urethra, these being the principal causes of this unpleasant discharge.

They also illustrate the folly of internal treatment in the giving of medicines, use of injections, etc., without some attempt being made in some way to restore the urethra to its normal calibre.

CASE VII.

OBSTINATE GLEET; SINGLE STRICTURE; DILATATION; RECOVERY.

September 22, 1872.—D. P., æt. 27; habits temperate; first attack of gonorrhœa a year ago; not severe; treated for six months with copaiba and injections; no treatment during the past six months. At present has an annoying discharge, especially in the morning. Exposure to cold increases

the desire to micturate; complains of an unpleasant sensation in the region of the prostate; objects to having any instrument whatever introduced; desires to be treated only with medicines, and as he is anxious to be married, desires an immediate cure; declined to treat the case at all, unless he submits to an examination. Patient leaves in a rage.

October 20, 1872.—Returns, stating that he has taken medicines, without any effect upon the discharge; is willing to submit to any examination necessary. No. 5 bulbous-pointed bougie detects a stricture in the membranous portion of the urethra. Gradual dilatation was begun, and tr. ferri, tr. cantharid., and fl. ext. ergot given internally.

February 1, 1873.—Patient has continued under treatment, gradual dilatation being practised twice a week until now. No. 17 steel sound can be passed with ease; no discharge; departs cured, with the expression that the next time he will believe the doctor.

CASE VIII.

OBSTINATE GLEET; TWO STRICTURES; LARGE CALIBRE; DILATATION;
RECOVERY.

May 10, 1873.—Q. J., æt. 27, habits intemperate. Has had four not very severe attacks of gonorrhœa, last attack a year ago, since which time there has been a constant gleet discharge. In most of these attacks has been treated with copaiba internally, and injections of zinc, etc. Upon examination with No. 10 bulbous bougie, a stricture of large calibre is detected one-quarter inch back from meatus, and another in the membranous portion of the urethra. Nos. 10 and 11 elastic bougies, and afterward Nos. 15 and 16 steel sounds were introduced two and three times a week for six weeks, causing much pain each time near meatus when the discharge ceased. No internal treatment.

October 1, 1873.—Reports himself as being in his original good health, and urethra-free from any abnormal discharge.

CASE IX.

GLEET DISCHARGE; SINGLE STRICTURE; LARGE CALIBRE; DILATATION;
RECOVERY.

April 10, 1873.—W. J., æt. 22, habits temperate. Has had two attacks of gonorrhœa, the last a year ago, since which time there has been a persistent gleet discharge, though he has taken medicine and used injections most of the time. There has been no examination of the urethra with bulbous bougie. Twice after severe exposure has been obliged to resort to the use of catheter, to draw off his urine; catheter of moderate size (he states) was introduced each time with little trouble. Examination with No. 11 bulbous bougie reveals a stricture one-quarter of an inch from the meatus, the remaining portion of urethra appearing healthy. Nos. 13 and 15 steel sounds were passed twice a week for a month, with much pain, when the discharge entirely ceased.

August 13, 1873.—Continues free from any gleet discharge, and passing a good natural stream of urine.

CASE X.

GLEET DISCHARGE; SINGLE STRICTURE; LARGE CALIBRE; GRADUAL DILATATION; RECOVERY.

G. J., *æt.* 23, September 1, 1872, applies for treatment; temperate habits. First attack of gonorrhœa two and one-half years ago, not severe; recovery took place in three months, using *copaiba* alone internally. Had a second attack eighteen months ago, not severe; treated like the first attack, but has since been constantly annoyed by a slight discharge from the meatus. Detect, with No. 8 bulbous bougie, a slight stricture about one-half of an inch back from the meatus. Treated for three months by gradual dilatation with elastic bougies, and at last with No. 15 steel sound. Internally, *tr. ferri* and *tr. cantharid.* were given. The discharge at this time ceased, and there has been no return up to this date, August 13, 1873. Has occasionally passed during the latter part of the year No. 15 steel sound with comparative ease.

CASE XI.

GLEET DISCHARGE; TWO STRICTURES; INCOMPLETE GRADUAL DILATATION; PARTIAL RECOVERY.

First visit at house November 1, 1872. W. P., *æt.* 54, very intemperate, has had repeated attacks gonorrhœa; easy recoveries; first attack at eighteen years of age. Has had a gleet discharge, and at times great dysuria during the past ten years, and occasionally almost complete retention; would remain in the house several days at a time, the urine merely dribbling from him. During the past six months has passed a very small stream at frequent intervals, often only in drops. The smallest bulbous-pointed bougie detected two strictures, one in spongy portion urethra, three inches from meatus, the other in the membranous part. Only by gentle effort can No. 2 black elastic bougie be introduced into the bladder. Elastic catheters and bougies from three to four times a week were used for three months, until No. 8 bougie passed the strictures quite easily. Now retains his urine from two to four hours, and passes a small distinct stream with ease. Gave internally *tr. hyoseyam.*, *fl. ext. ergot*, *tr. cantharid.* Irritable condition of bladder very much lessened. Being a great coward, will not permit internal urethrotomy, divulsion, or the introduction of a larger sized bougie.

November 1, 1873.—Has continued to use No. 8 bougie and catheter, remains very comfortable, attends to business, and is much improved in health.

CASE XII.

OBSTINATE GLEET ; POINTS OF ULCERATION IN URETHRA ; GRADUAL DILATATION ; PARTIAL RECOVERY.

November 1, 1872.—D. D., æt. 40, habits irregular, unmarried, occupation of such a nature as to expose him to all kinds of weather, both day and night. Had first attack of gonorrhœa eighteen years ago, severe; treated with copaiba and injections; four months in recovering. Ever after this, when suffering from a severe cold, would notice that the stream of urine became smaller, that it required greater force to empty the bladder, and that for a few days there would be some discharge from the meatus. Two years ago had a second attack, very severe, attended with great pain, swelling and scalding in urinating; resorted to same treatment as before; was three months in recovering. After this the stream of urine became decidedly small, but there was no retention; obliged to empty his bladder often, both day and night. Four months ago had a third attack, which was attended with very severe pain, swelling and scalding, more aggravated than during former attacks; at times would pass quite an amount of blood. After a two months' course with copaiba and injections, the pain and discharge nearly ceased, but observed that he could only pass a small stream, and with an intense desire to urinate frequently. Upon examination his urethra seems to be in a state of ulceration for a distance of five inches, is also uniformly contracted and roughened. Bleeds easily upon the introduction of No. 2 black elastic bougie, also causes much pain; tr. ferri and tr. cantharid. ordered internally.

March 1, 1873.—Patient remains in a very comfortable condition since the occasional use of different sized elastic bougies up to No. 8. Scarcely any discharge, and the introduction of No. 8 bougie gives little pain. Pain much increased when attempting to introduce a larger sized bougie. Will not permit any further treatment by means of the urethrotome or divulsor.

November 1, 1873.—Remains comfortable; is using No. 8 black elastic bougie, olive-pointed, about once a week; refuses all further treatment.

In presenting the following cases to illustrate the treatment of stricture by divulsion, I desire to call your attention to a class of cases in which gradual dilatation is no longer possible, from the fact that the stricture is too tight to admit the passage of even the smallest sized bougie.

It is here we resort to the use of the small whalebone guides.

In connection with this method of treatment, I desire to call your especial attention to tunnelled dilators or divulsors.

CASE XIII.

SINGLE STRICTURE ; DIVULSION ; RECOVERY.

May 31, 1871.—C. J., æt. 27, intemperate, admitted to hospital to-day. First attack of gonorrhœa three years ago ; made a speedy recovery by internal use of copaiba, etc. ; no injections used. Second attack a year and a half after ; treated for six months with internal remedies and injections ; at this time there was scarcely any discharge, but did not consider himself well. Soon after this, the gleet discharge still continuing, he noticed that his stream of urine was gradually becoming smaller, the smarting pain upon passing it more marked, that it took longer to empty his bladder, and was obliged to micturate frequently both day and night. This has been the condition of the patient for the past year. During the last two months is obliged to go to the water-closet nearly every time he desires to micturate ; passes upon observation no distinct stream at present. His urethra presents a congenital hypospadiæ, about a quarter of an inch of the urethral canal being absent at the meatus. Upon examining his urethra with different sized bulbous-pointed bougies, the smallest will not pass a stricture situated in the membranous portion. After injecting the urethra with warm oil, an attempt was made to pass a whalebone guide ; although persevering for several hours during three successive days, none could be introduced into the bladder.

Patient took at this time internally tr. ferri and sulph. quiniæ, and flax-seed poultices were applied to hypogastric region. Keeps his bladder empty by frequent attempts to urinate. Had concluded to perform external perineal urethrotomy, but succeeded on the fourth day in a half hour's time, and after using eight guides, in introducing one past the stricture. On this, with some effort, a No. 3 tunnelled silver catheter was passed, drawing off about a gill of ammoniacal urine. Gouley's modification of Thompson's divulsor was now passed on the guide, and the stricture apparently fully divulsed ; about two drachms of blood followed the operation ; suffered but little pain.

Nos. 8 and 10 steel sounds now passed with ease. Patient ordered to continue iron and quinine. No chill or unpleasant symptom following, steel sounds to No. 15 were passed with little pain. Patient discharged from hospital June 15, 1871, with instructions to have No. 15 steel sound passed occasionally.

June 1, 1873.—Two years after divulsion. C. J. has reported about every two or three months ; have passed each time Nos. 15 and 16 steel sounds without any difficulty. Has married since the operation, and become a father. General condition good.

CASE XIV.

SINGLE STRICTURE ; DIVULSION ; RECOVERY.

May 23, 1872.—W. J., æt. 34, temperate. Had first attack of gonorrhœa in May, 1865. Made an easy recovery in two months with the usual treat-

ment without injections. In the early part of 1868 had a second attack, symptoms not more severe than the first. Used the same treatment for a year, but still had a constant gleet discharge. At this time was advised to use a strong injection of sulphate of copper, which caused him great pain, and resulted in almost complete retention. Has since abandoned all treatment; has had great difficulty in urinating, and can now pass but a small stream, and at times but a succession of drops. Obligated to micturate frequently during the night, and is frequently unable to perform the act without being seated upon the water-closet, and often has a passage from the bowels at the same time. Is at present thin and emaciated. Upon examining his urethra to-day with a bulbous bougie a stricture is found in the membranous portion, through which only a whalebone guide can be passed, and only after a half hour's steady perseverance, using six guides. No. 2 tunnelled steel sound was first passed on the whalebone guide, then the tunnelled divulsor and the stricture fully divulsed, with little pain and slight hemorrhage. No. 12 steel sound was now passed into the bladder. Ordered quinine and muriate tincture of iron.

June 1.—No unpleasant symptoms have followed. A No. 15 steel sound has been passed daily without great pain. Not obliged to empty his bladder during the night; is much improved; treatment to be continued.

August 10.—Patient has reported every two weeks, and had Nos. 15 and 16 steel sounds passed. Condition is very much better. Internal treatment discontinued. Ordered to pass sound occasionally.

October 30, 1873.—W. J. has not reported since last note of case until to-day. No sound used since August 10, 1872. Passes a good stream. No. 16 steel sound passes with little pain into the bladder. Bulbous bougie fails to detect any remains of stricture.

CASE XV.

SINGLE STRICTURE; DIVULSION; RECOVERY.

H. J., *et. 45*; hotel keeper, of intemperate habits. First attack of gonorrhoea in 1848, said to have been complicated with chancre in urethra. Treated with mild injections. Symptoms subsided in six to eight weeks. No difficulty in passing his urine after this attack. Second attack in 1861, which readily yielded to treatment in four or five weeks. No trouble in voiding urine after this—passing a good stream. Had a third attack in March, 1868, which proved to be more severe, the discharge making its appearance freely forty-eight hours after exposure. Treated as before with injection, *etc.*; had a severe attack of orchitis when partially cured. Had from the beginning difficulty in voiding his urine, while he noticed with anxiety that the stream was gradually growing smaller. After eight weeks' treatment he thought the discharge had entirely ceased, but since has had great difficulty in voiding his urine. Obligated to frequently void his urine drop by drop, both day and night. Sometimes would consume fifteen

minutes in emptying his bladder, and at times obliged to assume almost every possible position to effect it.

November 30, 1872.—Upon examination to-day a stricture is detected five inches back from the glans penis or meatus. After using several whalebone guides, one passed the stricture with slight effort, and entered the bladder. Upon this No. 2 tunnelled sound, then Gouley's No. 3 tunnelled silver catheter was passed, and through the latter the urine now flowed freely. Thompson's tunnelled divulsor was then introduced, and the stricture freely divulsed; pain not severe; slight hemorrhage. Immediately after No. 15 steel sound was passed; patient complaining of very little pain. Ordered internally 1 gr. quinine every three hours, and 10 gr. *tr. ferri* three times daily. This treatment was continued for a week, no chill or unpleasant symptom following. Nos. 15 and 16 steel sounds were passed every other night. After this No. 16 sound was passed weekly for a month. Internal treatment now discontinued, and patient warned of the necessity of having sound passed occasionally. Has, however, not since reported.

CASE XVI.

TRAUMATIC STRICTURE; PARTIAL DIVULSION; URETHRAL FEVER; GRADUAL DILATATION; RECOVERY.

May 11, 1872.—McC. E., *æt.* 24; unmarried; temperate habits. While following his daily occupation—paper hanger—fell astride of a step-ladder, and received a severe contusion on the perineum. States that he did not void his urine nor pass blood after the fall, but that the urine was drawn on the 12th, 13th and 14th, and noticed an escape of blood after the use of the catheter. After the 14th, he passed his urine with the aid of warm hip-baths and anodynes, until July 20th, when he could only void it in drops. Has a constant desire to micturate, and can only do so with great effort when seated upon a vessel. At this time I was called to see him in consultation with his attending physician Dr. Maguire. Upon examination with a bulbous-pointed bougie, it was arrested in the membranous portion of the urethra, and after injecting the canal with warm oil, no ordinary instrument would pass the point of stricture. After an hour's effort with whalebone guides, one was finally passed into the bladder, upon this No. 2 tunnelled sound, and then Thompson's divulsor; the latter causing such great pain and distress, the divulsion was not completed. After this, however, the urine passed more freely, but the imperfect divulsion was followed by severe urethral fever, which did not yield for several days to the use of quinine in large doses, *tr. aconite*, anodynes, external application of heat, *etc.*, *etc.*

July 25.—The urethral fever has subsided, and only No. 7 steel sound can be introduced with gentleness into the bladder, causing little or no pain. No great pain following the use of the steel sound, gradual dilatation was practised up to September 1, 1872, when No. 18 steel sound could be passed into the bladder with very little pain. Nos. 17 and 18 steel sounds were now passed once a month.

September 10, 1873.—Patient, at request of Dr. M., reported to-day, and No. 18 steel sound can be passed with ease. Condition good. No vesical irritation. Directed to use No. 17 steel sound once every month or two.

The following case illustrates the third mode or method of treatment—that of internal urethrotomy. In this connection I have employed the following instruments: Gouley's tunnelled urethrotome, tunnelled dilating urethrotome, meatotome and Otis' dilating urethrotome.

CASE XVII.

TWO STRICTURES; USE OF MEATOTOME AND URETHROTOME; URETHRAL FEVER; RECOVERY.

Reported by Dr. Whitehorn, house physician, July 25, 1873. R. W., Greenville, Greene county, N. Y., æt. 28, strong and robust constitution; admitted to hospital as a private patient; contracted gonorrhœa four and one-half years ago, for which he consulted no physician until it had become a chronic gleet. Eight months after, thought he had recovered, when, after an occasional spree, he noticed a discharge, which continued for a week at a time; was in this condition for a year, when he sought medical advice. Bougies were used, the discharge ceased, and he micturated freely again for six months. About this time, drinking freely of cider, the discharge again appeared. There was also renewed dysuria. Took *bal. copaib.* and *spts. æth. nitros.*, with some relief. Up to four months ago, his condition became more and more aggravated, when he could only pass his urine by drops, and with more comfort when seated upon a bench than otherwise. This condition was alike at all times, being obliged to micturate every few minutes, else the urine dribbled away; had sharp momentary pain in inguinal region when nearly through micturating. Upon examination to-day (July 25, 1873) a slight stricture is detected half an inch back of the meatus, and another in the spongy portion of the urethra, through which No. 3 bulbous-pointed bougie will not pass; urine of a pale color, slightly acid; no albumen. Ordered *pulv. Tully grs. v.*, every two hours. Also, *tr. ferri chlorid. ℥ x*, three times daily, and *inf. ulmi*, as a drink *ad libit.*

26th.—Bowels moved freely; feels somewhat better; slept fairly; with some trouble, a whalebone guide is introduced, on this No. 2 tunnelled sound, then No. 3 tunnelled silver catheter, after which the urine was voided with comparative ease.

27th.—Slept well; urinated freely throughout the day; appetite improving.

28th.—Condition as yesterday; this p. m. divided first stricture with the meatotome; operation almost painless; now passed No. 14 steel sound through and as far as second stricture; very little hemorrhage.

29th.—Improving; during the forenoon, introduced No. 16 sound through divided stricture; attended with considerable pain and hemorrhage; no other unfavorable symptoms.

30th.—Nos. 14 and 16 sounds were introduced down to second stricture, with but little pain and hemorrhage.

31st.—Doing well.

August 1.—Condition good; at 12 M., introduced Gouley's urethrotome upon guide, and divided second stricture from before backward on floor of the urethra; passed No. 10 sound into the bladder, attended with very little pain and hemorrhage; at 3 P. M., patient was seized with rigors; applied hot water to feet and extra blankets ordered; relieved in about five minutes; pulse 90, soft and full; skin warm and moist; countenance anxious. Shortly afterward, attempting to use the commode contrary to orders, he suddenly became faint and much prostrated; pulse 100, soft and full; profuse perspiration; face wan and anxious; respiration sighing; voice weak; stimulants administered cautiously. Shortly afterward, again seized with rigors; applied heat to feet and spine, sinapism to epigastrium (to relieve nausea); gradual improvement; 9 P. M., temp. 103°; pulse 98 to 104; skin moist; ordered recipe, quiniæ sulph. grs. iij, every two hours. Recipe, infus. lini sem. for a drink ad libit.; to continue the iron; hot hop pillows applied to lumbar region; large flaxseed poultice over abdomen.

2d.—8 A. M., passed a sleepless but comfortable night until 3 A. M., when he had a slight chill, lasting but a few minutes; usual treatment; micturated once during the night, passing about eight ounces of urine; pulse 80; temp. 99°; countenance cheerful and light; no sound used; 3 P. M., was again seized with rigors for a few minutes, followed by profuse perspiration; pulse 84; temp. 102°; 9 P. M., pulse 74; temp. 99½°; usual treatment.

3d.—8 A. M., pulse 74; temp. 99°; doing well; 3.15 P. M., had a chill, lasting fifteen minutes; great prostration; pulse 96; temp. 103½°; 9 P. M., pulse 74; temp. 103½°; skin warm and moist; usual treatment combined with quinine; hot hop pillows and poultices were applied.

4th.—8 A. M., pulse 74; temp. 99°; passed a comfortable night, under influence of Tully powder. Recipe, pil. quiniæ sulph. gr. j, five every two hours up to 6 P. M. 3 P. M., though no unfavorable symptoms manifested themselves, ordered hot applications as a preventive to chill; 9 P. M., pulse 98; free secretion of urine; passed No. 8 steel sound.

5th.—9 A. M., pulse 66, regular and strong; tongue furred; slept well; skin moist and warm; 9 P. M., pulse 54; temp. 96°; appetite good, and sleeps occasionally. From 8 A. M. to 6 P. M., took five grs. quinine every two hours, using, at the same time, hot applications, as before; now decreased the quinine to grs. iij, every two hours.

6th.—9 A. M., pulse 75; temp. 97°; slept well; appetite good; bowels regular; 9 P. M., pulse 68; temp. 97½°; passed No. 10 sound.

7th.—9 A. M., pulse 69; temp. 98°; doing well.

8th.—9 A. M., pulse 70; temp. 97°; doing well. At 4 P. M., introduced Nos. 10 and 12 steel sounds without trouble. At 6 P. M., had a slight chill; pulse 102; temp. 100°. Continued usual treatment, and gave recipe, tr. aconiti. rad. gtt. ij, every two hours. 11 P. M., feeling much better.

9th.—9 A. M., slept well ; pulse 72 ; temp. 98°. From this time until his discharge, August 11th, his progress toward recovery was uninterrupted. He had 10 \mathfrak{u} tr. ferri three times daily, and one grain of quinine every three hours. The urethra admitted the easy passage of No. 16 Thompson's sound.

October 1.—R. W. has reported every two weeks, and No. 16 Thompson's sound was passed ; is improving in general health and strength ; is given No. 16 black elastic bougie, and directed to pass it himself once a week ; has continued the use of the iron and quinine since leaving the hospital, ten drops of the former and three grains of the latter, three times a day.

The following cases are presented to illustrate the benefit derived from combining the three methods of treatment of which we have spoken in treating certain strictures.

CASE XVIII.

RELAPSE IN FIVE YEARS AFTER GRADUAL DILATATION ; DIVULSION ; USE OF MEATOTOME ; RECOVERY.

December 13, 1872.—C. W. (Case I) again applied for treatment concerning his former trouble. Habits have been good since last under treatment, and has married. Had employed the bougie for nearly six months, when, feeling perfectly well, he discontinued its use. During the past few months has had a more frequent desire to pass his urine ; has noticed a slight gleet discharge, and also that the stream of urine is smaller. On examining his urethra with a No. 3 bulbous-pointed bougie, a stricture is detected five inches from the meatus, which holds the bougie quite firmly on attempting to withdraw it. Gradual dilatation now employed for six weeks, but No. 10 black elastic bougie gives so much pain at the meatus that I determined to incise it, and attempt divulsion upon the deeper stricture.

February 1, 1873.—The meatus was freely incised with Gouley's meatotome, and a No. 14 steel sound passed down to the deeper stricture ; no unpleasant symptoms ensued.

17th.—Having first introduced the whalebone guide with Gouley's modification of Thompson's divulsor, the deeper stricture was fully divulsed ; slight bleeding ; the operation giving him no more pain than the bougie while practising gradual dilatation. No. 14 steel sound was passed into the bladder. Iron and quinine were prescribed during a week, and no unpleasant symptoms presented. Twice a week, for ten weeks, steel sounds up to No. 15 were introduced, at which time the discharge ceased, and he was discharged, with instructions to pass the No. 15 steel sound twice a month.

October 1.—C. W. has continued to use No. 15 steel sound weekly, feeling well and passing his urine with ease and as naturally as he ever did.

CASE XIX.

THREE STRICTURES; DIVULSION; GRADUAL DILATATION; USE OF MEATOTOME, AND GOULEY'S DILATING URETHROTOME; RECOVERY.

C. T. A., sent from Bennington, Vt., for treatment; æt. 30; of intemperate and irregular habits; saloon keeper. Two years ago had first attack of gonorrhœa, very severe in character, and attended with chordee and painful micturition. Considerable time elapsed before the symptoms subsided, and has not been free from a gleet discharge since. Injections were used also bal. copaiba, etc., internally for some time. A year ago had second attack of gonorrhœa, for which the usual treatment was pursued for three months without injections. Gleet discharge has continued. Six months ago, after an impure connection, noticed a chancre on the outer surface of the glans penis, which yielded readily to external treatment; very little internal treatment. During last three months has voided his urine with some difficulty, having also a frequent desire to micturate, and requiring a long time to empty the bladder. The stream of urine has become gradually smaller, until at times it could only be passed in drops. Is obliged to empty his bladder frequently during the night. For the past year has himself occasionally passed a No. 5 English bougie; has not made use of it during the past six weeks, being unable to introduce it for any distance into the urethra.

March 20, 1873.—Applies to-day for treatment, fearing that if he is not soon relieved, he will be altogether unable to void his urine. His mouth, upon examination, presents several mucons patches, and there are patches and condylomata about the anus. Upon examining the urethra with a No. 6 bulbous-pointed bougie a stricture is detected just back of the meatus; it is also arrested at a point five and a half inches from the meatus. No. 3 will not pass this point. After some effort with eight whalebone guides, one is finally passed into the bladder, upon which a No. 2 tunnelled sound was guided with little effort, and attended with no pain. A No. 3 tunnelled catheter was now passed, and a small quantity of urine was withdrawn, showing that the instrument had passed into the bladder. The patient being unable to leave his business, and wishing to return home the next day, I determined not to operate on the stricture near the meatus at present, but to use the divulsor on the deeper one. The instrument was passed easily on the guide, and the stricture was divulsed until the index marked No. 12, when, there being much pain, I desisted, about half a drachm of blood following the operation. Ordered to take 1 gr. quinine every three hours, and report in the morning.

21st.—Called this morning, stating that he had not passed so comfortable a night for a long time. Passes, he says, a good stream; no chill or fever. A No. 9 Thompson's steel sound was now passed with ease and little pain. Ordered to drink flaxseed tea, continue quinine, to keep quiet, and to remain in the city for another day at least.

22d.—No chill or fever. The introduction of No. 9 steel sound is

attended with little pain. Complains of considerable pain near meatus when attempting to introduce No. 10. Being anxious to return home, he is ordered the same treatment as before, and in addition a gargle of potass. chlor. and ammon. mur. for his throat, and to return in three days.

26th.—Is feeling much better; no chill or fever; passes his urine less frequently and better than for a year past. No. 9 steel sound is introduced with ease. I now wished to incise the stricture near the meatus, but the patient being obliged to return home desired me to wait for a few days longer. Same treatment to be continued.

31st.—States that his throat and anus are troubling him, but feels much improved as regards his urinary difficulty. The stricture near the meatus was now incised with the meatotome, and a No. 11 steel sound passed with little pain into the bladder. Very little hemorrhage. Ordered to introduce night and morning a No. 12 elastic bougie an inch into the urethra, so as to prevent contraction of the stricture near the meatus. Ordered to take, two or three times daily, a pill of the following: Recipe Hydrarg. chlor. corrosiv. gr. 4; extract hyoscyam., extract gentian., aa gr. j; ferri chlorid. gr. 4, M.; and ung. hydrarg. ammoniat. to be applied to the anus two or three times daily. Also to continue gargle for throat. Ordered to report in a few days.

April 5.—No chill or fever; progressing finely; feels much improved in every respect; obliged to urinate but once or twice during the night. No. 13 steel sound passes with little difficulty. To continue treatment and report in a week.

12th.—Secondary symptoms improved; sleeps well during the whole night, and states that he is passing his urine as well as ever. Nos. 13 and 14 steel sounds pass with ease, but No. 15 causes much pain about two inches back from the meatus, and at the meatus itself. With a No. 10 bulbous-pointed bougie a well-defined stricture is detected two and a half inches from the meatus. This stricture is to be incised with Gouley's urethrotome. To continue treatment.

24th.—Has not reported on account of marked improvement. Same instruments as were used on the 12th, now introduced with ease; condition good. Wishing to return, he is instructed to use No. 14 steel sound and to pass it every four days, and to report in two weeks. To continue treatment for secondary symptoms.

May 10.—Has used No. 14 sound without difficulty, and is much improved in health, secondary symptoms having subsided very decidedly. No. 15 steel sound causing much pain at the meatus when introduced, the latter was again freely incised with the meatotome, when Nos. 15 and 16 were passed, causing much pain at the stricture, two and a half inches back; ordered to use large bougie, and keep the meatus well opened.

15th.—No. 15 steel sound is introduced without difficulty. Wishing to return, he is ordered to use No. 15 twice a week, and to await results before treating the stricture two and a half inches back.

August 1.—The stricture two and a half inches back from the meatus

was freely incised with Gouley's dilating urethrotome, and No. 16 steel sound passed into the bladder with ease; very little hemorrhage followed. General health very much improved; directed to use No. 15 Thompson's sound every two weeks. The throat symptoms becoming troublesome, he is directed to take three of the pills prescribed before daily.

September 1.—Mr. A. reports himself as doing well; passes Nos. 15 and 16 steel sounds without difficulty. Urinates as when in perfect health. Continued treatment.

CASE XX.

TWO STRICTURES; GRADUAL DILATATION; USE OF URETHROTOME; STRICTURE OF LARGE CALIBRE AND USE OF GOULEY'S DILATING URETHROTOME; RECOVERY.

December 10, 1872.—S. D. H. A., æt. 35; health good; habits temperate; had a severe attack of gonorrhœa five years ago; treated with copaiba internally and injections; has had a slight gleet discharge since; two years ago had cystitis, and since then complains of much pain, and a sensation of heat in the region of the prostate gland. There has been a frequent desire to micturate, and obliged to arise two or three times during the night to empty his bladder; has also noticed, during the past six months, that the stream of urine has become quite small. Upon examination with a No. 5 bulbous-pointed bougie, a stricture is detected one-quarter inch back from meatus, and another in the membranous portion of the urethra. Ordered tr. ferri and fluid extract ergot internally. Gradual dilatation was practised upon the deeper stricture two and three times a week, until March first. The strictures being very unyielding, and the introduction of No. 10 steel sound causing great pain at the meatus, the latter, including the first stricture, were freely incised with the meatotome, the patient desiring not to have divulsion performed upon the deeper stricture. No. 14 steel sound passed down to the deeper stricture. No unpleasant symptom followed. The use of the meatotome caused much less pain than the bougie or sound, while practising gradual dilatation. The deeper stricture was now gradually dilated.

May 1, 1873.—On passing No. 15 steel sound, there is great pain at the meatus, which had somewhat contracted. This was again incised, with no unpleasant symptom following. The discharge has now ceased; micturates freely and with ease; reports himself as feeling very well; internal treatment discontinued.

July 1.—No. 16 steel sound has been passed once a week; patient improving; instructed to use a No. 12 elastic bougie once a week, and to report occasionally.

August 1.—S. returns, reporting that, for the past two weeks, has noticed occasionally, in the morning, a moisture about the meatus, and that it annoys him; notices, also, after urinating, when he believes the act completed, an escape of several drops of urine. Upon examining his urethra

carefully with a No. 11 bulbous-pointed bougie, a stricture of large calibre is detected three inches from the meatus. Gouley's dilating urethrotome was then introduced, the stricture well dilated and incised. Considerable hemorrhage followed, and continued for nearly two days. No. 17 steel sound was now introduced, with no unpleasant symptom following. No stricture can be detected at present.

September 1.—Nos. 16 and 17 steel sounds have been passed weekly; notices no moisture of the lips in the morning, and no dribbling of urine after emptying his bladder.

25th.—Patient continues well, passing No. 16 steel sound about once a week.

CASE XXI.

FIVE STRICTURES; GRADUAL DILATATION; USE OF MEATOTOME; PARTIAL RECOVERY; PATIENT TO RETURN FOR FURTHER TREATMENT.

September 2, 1873.—McG. J. F., *æt.* 45; habits temperate; first attack of gonorrhœa in 1868; was very severe in character, and attended with much swelling of penis, painful chordee and a very profuse discharge; treated with little benefit for nearly a year with copaiba, etc. During most of this time the discharge continued, attended with much pain and scalding, and a frequent desire to micturate. He finally refused any further treatment, and after a short time found himself somewhat improved. During 1870, notwithstanding a constant gleet discharge, he was quite comfortable, not being obliged to pass his urine so often, and effecting it with comparative ease. During the early part of 1871 he was kicked by a horse, receiving the force of the blow in the testicles and penis. These organs swelled very rapidly, became very ecchymotic, and patient was confined to his bed in consequence during several weeks. Passed frequently small quantities of urine mixed with blood; no complete retention; six months after recovering from the injury he had sufficiently recovered to again attend to his duties. He now noticed that the stream of urine was smaller than usual, but could always empty his bladder; obliged to micturate frequently during the night. In November, 1872, while riding a vicious horse, he was thrown against the horn of the saddle and injured his penis and testicle for a second time. The swelling and ecchymosis were as great as when first injured; greater dysuria, and attended with hæmaturia; confined to the house during two weeks. From this time until September 2, 1873, he has gradually grown worse, voiding his urine from twenty-five to thirty times a day, and very often during the night, always attended with excruciating pain. It takes him from five to ten minutes each time to empty his bladder. To-day he presents himself for treatment; is much emaciated and depressed in spirits; has tried all the different "pathies," and has very little faith in any treatment. Upon examination, the under surface of the urethra feels roughened and indurated, and there is found in the perineum a swelling about the size of a hen's egg. The latter has developed itself gradually during the past three weeks, and he is certain that it grows larger when attempting to

urinate, and decreases in size after emptying his bladder; the swelling is hard to the touch, very painful, and especially so on attempting to urinate.

Upon attempting to explore the urethra, after injecting the same with warm oil, the smallest bulbous-pointed bougie is arrested about two inches from the meatus, and detects two well-defined strictures at this point, beyond which it will not pass. After some effort and the use of five whalebone guides, one is finally passed into the bladder; on this a No. 2 tunnelled sound, and then, although attended with great pain, Gouley's No. 3 tunnelled silver catheter, through which about two ounces of very offensive urine passed; some hemorrhage followed. No. 3 bulbous-pointed bougie now detects four well-defined strictures in the spongy portion of the urethra, one near the meatus, and the others about three-quarters of an inch apart. The same bougie also detects a stricture in the membranous part of urethra, passing it and entering the bladder, causing great pain all along the urethra, and eliciting from him the remark that he would have to be anesthetized if the operation was to be repeated; ordered rest, tr. ferri et quiniæ sulph. internally, and the application of linseed meal poultices to the perineum and hypogastric regions.

September 4.—No chill; passes his urine with more ease and less frequently; feels encouraged; internal treatment continued. No. 3 black elastic bougie passes with ease, and little complaint on part of patient.

October 15.—Has continued the iron and quinine; improved in appearance; has gained strength and appetite, and is very much encouraged; elastic bougies have been passed every day or two, the urethra gradually becoming accustomed to their use, until No. 10 passes with little pain, excepting at the meatus. The swelling in the perineum has entirely disappeared; not obliged to empty his bladder during the night, and but once every two hours during the day; the passage of No. 10 steel sound causing some pain at the meatus, the latter is incised with the meatotome; very little hemorrhage; ordered to continue quinine and iron.

22d.—To-day passed No. 10 steel sound with ease into the bladder. The swelling in the perineum has entirely disappeared. Is passing a good stream, and not obliged to empty his bladder during the night.

The patient is called away from the city for six weeks; is ordered and instructed to pass a No. 10 elastic bougie two or three times weekly.

CASE XXII.

TWO STRICTURES; GRADUAL DILATATION; DIVULSION; PARTIAL RECOVERY.

April 12, 1872.—McG. H., æt. 28; intemperate and dissipated; contracted first attack of gonorrhœa five years ago; recovered in about three months after pursuing the usual treatment; no injection used. After three years had another attack, which proved to be severe; was treated for a long time with copaiba, etc., internally; also used a variety of injections; has had a constant gleet discharge since last attack, which increased after connection and was frequently attended with scalding and a profuse yellow discharge.

Condition would improve with internal treatment; habits bad to within two months, when he stopped drinking, etc. Upon examination, two strictures are detected, four and one-half and five inches from meatus. The stream of urine has been growing smaller during the last three months, and is voided with difficulty. No. 3 black elastic French bougie passes with some effort into the bladder.

June 20, 1872.—He has taken internally *tr. ferri*, *fld. ext. ergot* and *tr. cantharides*; elastic bougies, gradually increasing in size, have been passed two or three times a week until No. 10 gives so much pain that he objects; a whalebone guide was now passed and upon it Gouley's modification of Thompson's divulsor, and both strictures thoroughly divulsed; less painful than the passage of the bougies; passed No. 12 steel sound; iron and quinine ordered internally.

July 2.—No unpleasant symptom followed the divulsion; discharge almost entirely ceased; passed No. 13 steel sound; health much improved and feels encouraged; not obliged to void his urine during the night.

November 1.—Have introduced Nos. 13 and 14 steel sounds once or twice a week with little effort; ordered to pass sound occasionally.

July 27, 1873.—Reports for first time to-day since last November; habits have been good; feels well; passes a good stream; no gleet discharge; has passed the sound but a few times. Upon examining his urethra, only No. 10 sound can be passed; the stricture, four and one-half inches from meatus, has contracted considerably; the second one, five inches from meatus, cannot be detected with a bulbous-pointed bougie which passes the first stricture. Promises to call once a week until first stricture is dilated, or internal urethrotomy performed; no further internal treatment, as health is excellent.

October 1.—Has failed to call again.

CASE XXIII.

SIX STRICTURES; GRADUAL DILATATION; USE OF MEATOTOME; RESULT PARTIAL; CASE STILL UNDER TREATMENT.

W. H. J., *æt.* 27; irregular habits; had first attack of gonorrhœa five years ago; used a strong injection of sugar of lead (20 grs. to oz. j). This aggravated his trouble, and for three months he passed bloody urine. A year after had a second attack; after this "a sore," as he terms it, formed on the under surface of the penis; an abscess following, a physician lanced it, and patient states "that he cut into the urethra." The abscess filled again and was lanced; after this he improved.

Two years ago had another attack, when an abscess again formed in the same place; had it lanced again, and states that "it healed by the external application of calomel." Five months ago had a chancre for which he was treated by a physician; the abscess again filled, and for this he now applies for treatment; first noticed that he had a stricture four years ago; gradually grew worse until two years ago, when he had almost complete retention. He

was in the west, and a surgeon there operated on him while under the influence of chloroform; was obliged to use a bougie once a month after this for a year.

September 10, 1873.—To-day on applying for treatment he states that for the past two months he has not been able to use the bougie; that his stream of urine has been gradually growing smaller, until now it is frequently passed only in drops; that it requires great force on his part; that two weeks ago the fistulous opening on the under surface of the penis began discharging urine, and has given him much pain and annoyance since. On examination the meatus will scarcely admit No. 5 bulbous-pointed bougie, and is arrested three-quarters of an inch back from the meatus. The smallest sized elliptical bulbous bougie is with some effort, and after injecting the urethra with warm oil, passed into the bladder. On withdrawing it a stricture is detected in membranous part, and four distinct ones in the spongy portion of the urethra, also one at the meatus. The fistulous opening is about midway in spongy portion of the urethra externally, and communicates with the internal portion of the canal about one-half inch further back. A small silver probe can be passed through into the urethra. There is an unpleasant gleet discharge; urethra very sensitive; patient is compelled to pass urine very often, day and night; ordered internally *tr. ferri*; also, gradual dilatation is commenced.

24th.—No. 8 olive-pointed bougie can now be passed into the bladder; the fistulous track has closed; passes urine with more ease; treatment continued.

October 10.—To-day No. 10 elastic bougie giving much pain in stricture near meatus, the latter is freely incised; hemorrhage quite profuse and not easily controlled; is much improved in appearance and general health; ordered to pass No. 12 bougie beyond meatus night and morning.

14th.—Though the hemorrhage has been somewhat troublesome it is now arrested, and can, with ease, pass No. 10 steel sound into the bladder; says he is sure that he is passing a larger stream than he ever did; is not obliged to empty his bladder at night; the gleet discharge has diminished. On examining his urethra with No. 5 bulbous-pointed bougie, which passes without much trouble into the bladder, all the strictures spoken of can be distinctly defined. The use of Gouley's dilating urethrotome is suggested for treating strictures in the spongy portion of the urethra, but he objects so decidedly that gradual dilatation is necessarily continued; internal treatment continued.

November 10.—Patient remains about the same; the attempt to pass a larger than No. 10 steel sound causes great pain in spongy portion of the urethra.

Gleet discharge has about ceased, and patient is feeling, as he says, about well; has gained much in health and flesh. On a proper representation of his case, he states that after having attended to some very important business matters, will allow the use of such instruments as we think best.

Internal treatment discontinued; use of No. 10 steel sound continued twice a week.

CASE XXIV.

TWO STRICTURES; USE OF MEATOTOME; DILATATION; DIVULSION; URETHRAL FEVER; RECOVERY.

S. C., *æt.* 26, unmarried; habits temperate. July 10, 1872. The patient presents himself to-day with the following history. It is here given verbatim: "First noticed a slight discharge from the penis on the evening of the 27th of June, 1871, having on the 24th previous been in a drenching storm all day and thoroughly wet through; took sandal-wood oil without any perceptible effect for three weeks; then took cubebs and copaiba paste for about a month; neither a diminution nor increase of the discharge; consulted a physician who gave me *uva ursi* and an injection of sulphate of zinc. Up to this time, about two months having elapsed, had no trouble in urinating, there appearing to be no inflammation, no chordee, nothing but the simple discharge. After using the injection a short time, the penis began to swell, the discharge became copious, and micturition very painful. This state of things lasted for a great while, during which time I had used several different injections and a variety of prescriptions. But finding no benefit I stopped taking medicines, and simply used a wash of sal soda, by which I succeeded in keeping the parts perfectly clean and in reducing the inflammation. Then took cannabis and cantharides—homœopathically—but without any apparent benefit."

Upon examining the urethra with a No. 3 bulbous-pointed bougie, a stricture is detected just behind the meatus, and another in the membranous portion of the urethra. There is a free gleetty discharge, with a constant desire to micturate. The stream of urine has gradually decreased in size, and it requires great effort on the part of the patient to empty his bladder. The stricture behind the meatus was incised with a common bistoury, and Nos. 10 and 11 elastic bougies passed down to the deeper one. Slight hemorrhage. Directed to use No. 12 bougie, and to introduce it for two inches; but the discharge ceasing, he neglected himself and applied for no further treatment until August 24, 1873. The stream of urine now decidedly small, and the desire to micturate frequent. Obligated to empty his bladder frequently during the night. No. 2 bulbous-pointed bougie will hardly pass the stricture back of the meatus, but passes the deeper stricture with ease. The stricture near the meatus was now freely incised with the meatotome; hemorrhage profuse and arrested with some difficulty. No. 14 steel sound passes down to the deeper stricture. Sound passed for four successive days, and at each time the hemorrhage was quite annoying.

August 29.—Being exposed to a cold rain, the patient had severe chills followed by diarrhœa and exacerbations of fever for nearly a week. Urine scanty, and micturition attended with much pain in lumbar and hypogastric regions. Iron and quinine ordered internally, with heat, etc., to be applied

externally. No sound having been passed during the illness of the patient, the stricture back of the meatus had again somewhat contracted.

September 7.—Patient being in good condition, a whalebone guide was passed with little effort through the deeper stricture into the bladder, on this No. 2 tunnelled sound, then No. 3 tunnelled silver catheter, and about a gill of urine withdrawn. After this, Gouley's modification of Thompson's divulsor was introduced, and the stricture in the membranous portion of urethra thoroughly divulsed, attended with much pain and some hemorrhage. No. 10 steel sound was now readily passed into the bladder. Quinine and iron ordered to be continued. No unpleasant symptoms followed.

19th.—Gradual dilatation having been practised daily, and No. 13 steel sound scarcely passing the meatus, the latter is again freely incised with the meatotome. Hemorrhage considerable. Nos. 15 and 16 steel sounds passed for a short distance.

October 1.—Patient's condition good, except sensitiveness of the urethra near the deeper stricture. The passage of a larger than No. 10 steel sound causes much pain and distress at this point. Directed to continue the use of tr. ferri with mucilaginous drinks.

November 1, 1873.—Gradual dilation has been continued until now. No. 13 steel sound is passed with comparative ease. Ordered to continue treatment.

The following cases are presented to exhibit fistulæ, etc., as seen in strictures of long standing, and also those of a traumatic or idiopathic character :

CASE XXV.

ABSCESS AND VESICAL FISTULA IN PERINEUM, ALSO FISTULA IN ANO; TWO STRICTURES; GRADUAL DILATATION AND USE OF VOLLEIMIER'S DIVULSOR; URETHRAL FEVER; GOOD RESULT.

Service of Dr. J. H. Armsby. October 28, 1871.—McC. D., æt. 24, pale, emaciated, admitted to hospital to-day. Has had several attacks of gonorrhœa; treated internally, and also used injections, etc. Upon examination a fistulous opening is discovered on the left side, and in front of the anus, connecting with the bowel and also the urethra. There is continual discharge of fecal matter and gas, and also of urine when he attempts to urinate. Quinia and tr. ferri ordered internally with generous diet; passes a moderate sized stream of urine, but with difficulty.

November 20, 1871.—This condition having improved, the fistula in ano was operated on in the usual manner. Twelve to fourteen hours after the operation an alarming hemorrhage set in, and was finally controlled with the greatest difficulty by means of liq. ferri subsulph. and compressed sponge. Although considerably weakened by the hemorrhage, the operation proved successful as regards the fistula in ano. The fistulous connec-

tion with the urethra still remained open, and urine escaped whenever an attempt was made to empty the bladder.

January 1, 1872.—Service of Dr. Vanderveer; McC. D. is still in bed, but improving slowly.

20th.—Having had some trouble in voiding his urine, a careful examination was made which revealed two strictures in spongy portion, one two inches, the other four inches from the meatus. After some effort a small whalebone guide was passed into the bladder, and on this Gouley's No. 3 tunnelled silver catheter; about a pint of urine was withdrawn. On account of the great pain attending the operation he was anesthetized. This exhausting him very rapidly, the catheter only was passed. By aid of a No. 3 elastic bougie urine was passed much more easily, and with more freedom than for a year past; several chills and a sharp urethral fever followed the operation. Being in a weak condition, the iron and quinine were continued, and further operative proceeding abandoned for the time being.

March 1.—Patient is improving and is about the ward. Dr. Swinburne, while in temporary charge, during illness of Dr. Vanderveer, finding the patient in good condition, after having chloroformed him, passed Volkmann's divulsor and ruptured both strictures; considerable hemorrhage following but no other unpleasant symptoms. Nos. 8 and 10 steel sounds were now passed with ease. Patient was directed to pass No. 10 steel sound. Fistula in the perineum connecting with the urethra now entirely healed. Discharged from the hospital June 1, 1872. Patient not heard from since.

CASE XXVI.

OLD STRICTURES; PERINEAL ABSCESS; FISTULOUS OPENING; DEATH; AUTOPSY.

June 25, 1872.—Thos. E., widower, æt. 75; admitted to the hospital to-day. Has had several attacks of gonorrhœa. Last attack in 1860, after which he noticed the stream of urine becoming smaller, until he was compelled to micturate often and obliged to get up frequently during the night. Has been treated at different times by means of bougies, but with only temporary relief. Has twice had retention of urine for twenty-four hours, but was relieved at each time by means of a small catheter and the use of warm hip-baths. About two weeks ago noticed a small swelling in perineum, with increased difficulty in voiding his urine. This swelling proved to be an abscess; which, after having been poulticed, discharged pus freely two days before his admission into the hospital. Is certain that no urine has passed from the abscess. Condition upon admission is as follows: Abscess discharging freely; frequent desire to pass his urine; stream incomplete; much debilitated and emaciated; no chills. Upon examination a No. 2 bulbous-pointed bougie detects a single stricture in the membranous portion of urethra. A whalebone guide, after some little effort, is passed into the bladder, and on this Gouley's tunnelled silver catheter, about a pint of offensive urine following. Condition easier since the operation; poultice applied

From the cases now presented you, I think we can safely gather the following facts: Cases of stricture situated in the membranous part and bulbous portion of the spongy part of the urethra should, if possible, be treated by gradual dilatation. If this is not possible, then by divulsion.

That strictures in the spongy part of the urethra, in consequence of the great pain, do not bear well gradual dilatation, and that internal urethrotomy is the preferable mode or method of treatment.

That incisions of the meatus are well borne; and that in treating cases by gradual dilatation, where the dilating instrument causes great pain at the meatus, we need not hesitate to use the meatotome freely.

In the above cited cases it is assumed that in the beginning treatment, after having injected the urethra with warm oil, we have at least been able to pass a whalebone guide, — else the stricture becomes a proper one for the operation of external perineal urethrotomy.

